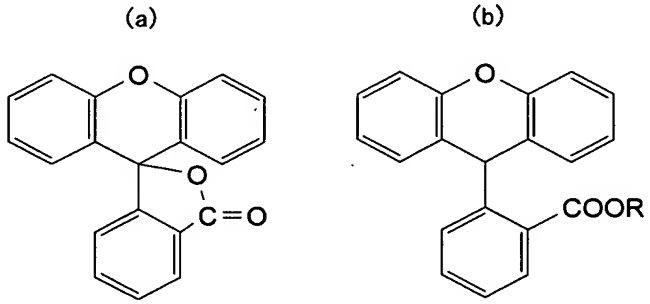
What is claimed is:

1. A film comprising PMMA and a fluorescent substance having a xanthene skeleton and a lactone ring and/or a fluorescent substance having a xanthene skeleton and a group -COOR, where R represents a hydrogen atom or a substituent, capable of forming an intramolecular lactone ring, said fluorescent substances being dispersed in the PMMA.

2. The film as claimed in claim 1, wherein the fluorescent substance is a compound of the following formulae (1)(a) and/or (b):

Formula (1)



wherein R represents a hydrogen atom or a substituent.

3. The film as claimed in claim 1, which has a thickness of at most 10 μm.

4. The film as claimed in claim 1, which has a thickness of at most 1 μm.

5. The film as claimed in claim 1, wherein the fluorescent substance is rhodamine B, fluoresceine or eosine Y.

6. The film as claimed in claim 1, wherein the fluorescent substance is rhodamine B.

7. The film as claimed in claim 1, wherein the PMMA has a weight-average molecular weight of from 50,000 to 200,000.

8. The film as claimed in claim 1, wherein the content of the fluorescent substance is from 1×10^{-5} to 1×10^{-2} % by weight of the PMMA.

9. A multidimensional optical memory having a film that comprises PMMA and a fluorescent substance having a xanthene skeleton and a lactone ring and/or a fluorescent substance having a xanthene skeleton and a group -COOR, where R represents a hydrogen atom or a substituent, capable of forming an intramolecular lactone ring, said fluorescent substances being dispersed in the PMMA.

10. The optical memory as claimed in claim 9, which is a multi-layered optical memory.

11. The optical memory as claimed in claim 9, which is a three-dimensional optical memory.

12. A method for producing a fluorescent material containing PMMA and a fluorescent substance, which comprises a step of dissolving in a solvent PMMA and a fluorescent substance having a xanthene skeleton and a lactone ring and/or a fluorescent substance having a xanthene skeleton and a group -COOR, where R represents a hydrogen atom or a substituent, capable of forming an intramolecular lactone ring to form a solution, and a step of removing the solvent from the solution.

13. A method for producing a film containing PMMA and a fluorescent substance, which comprises a step of dissolving in a solvent PMMA and a fluorescent substance having a xanthene

skeleton and a lactone ring and/or a fluorescent substance having a xanthene skeleton and a group -COOR, where R represents a hydrogen atom or a substituent, capable of forming an intramolecular lactone ring to form a solution, and a step of removing the solvent from the solution.

14. The method for film production as claimed in claim 13, wherein the solvent is a non-polar solvent.

15. The method for film production as claimed in claim 13, wherein the solvent is a cellosolve acetate.

16. The method for film production as claimed in claim 13, wherein the amount of the PMMA is from 5 to 35 % by weight of the solvent.

17. The method for film production as claimed in claim 13, which includes a step of forming the film in a mode of spin coating.

18. The method for film production as claimed in claim 13, which includes a step of forming the film having a thickness of at most 10 μm in a mode of spin coating.

19. The method for film production as claimed in claim 13, which includes a step of forming the film having a thickness of from 1 to 10 μm in a mode of spin coating.

20. The method for film production as claimed in claim 13, which includes a step of forming the film having a thickness of at most 1 μm in a mode of spin coating.